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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/749,127 | 12/30/2003 | Marco Ronchi | SCH041BUS/BF/jf (2110-98- | 3289 |

996 7590 05/19/2008
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| EXAMINER | |
|---|---|
| COLE, BRANDON S | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2816 | |

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|---|---|
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/749,127 | RONCHI ET AL. | |
| | Examiner | Art Unit | |
| | BRANDON S. COLE | 2816 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *March 7th 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) *17 and 27* is/are withdrawn from consideration.

5)☒ Claim(s) *1-16,18-26 and 31* is/are allowed.

6)☒ Claim(s) *28-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *December 30 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. In view of newly discovered prior art, new rejections are now set forth against claims 28-30 (and this office action is non-final).

### *Drawings*

2. Figures 1 - 5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. Applicant should delete "ARTE NOTA" from the figures. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Toda et al (US 4,672,236).

As to claim 28, Toda et al figure 1 shows a method of processinq a digital input signal (20) which may contain noise, the method comprising: receiving the noisy input signals; generating a plurality of mirrored currents in response to the received noisy input signals (a conventional operational amplifier is made up of current mirrors. (Operational Amplifiers)); converting at least one of the mirrored currents into a corresponding intermediate voltage signal; generating a trigger signal having a desired hysteresis (21,22,23) in response to the intermediate voltage signal; and reducing the voltage levels of the noisy input signals (22,23) to appropriate voltage levels prior to the operations of generating and converting.

As to claim 29, Toda et al figure 1 shows the method of claim 28 further comprising adjusting a hysteresis (21,22, 23) of the intermediate voltage signal in response to a bias current.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toda et al (US 4,672,236) in view of Pioppo et al (US 6,269,388).

Toda et al figure 1 shows a method that produces an trigger signal (21, 22, 23) having a substantially square wave voltage as a function of time and an intermidate voltage signal.

Toda et al fails to show a method that produces an intermediate voltage signal (Vc) that is trapezoidal voltage as a function of time

However, Pioppo figure 3 shows a method that produces an intermediate voltage signal (Vc) that is trapezoidal voltage as a function of time and the trigger signal have a substantially square wave voltage as a function of time. Pioppo teaches in column 2, lines 16-31 that the advantage for generating a trapezoidal signal is that it can be precisely amplitude-modulated and highly reliable.

Therefore it would have been obvious for one having ordinary skill in the art, at the time of invention, to replace Toda et al's immediate voltage signal with Pioppo's immediate voltage signal for the purpose of having a signal that can be precisely amplitude-modulated and highly reliable.

***Allowable Subject Matter***

5. Claims 1-16, 18-26 and 31 are allowed.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDON S. COLE whose telephone number is (571)270-5075. The examiner can normally be reached on Mon - Fri 7:30-5:00 EST (Alternate Friday's Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Richards, can be reached at (571) 272-1736. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth B. Wells/
Primary Examiner
Art Unit 2816

/Brandon S Cole/
Examiner, Art Unit 2816